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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,897

06/20/2006

Jean-Luc Chambrin

12928/10032

7370

26646

7590

02/14/2008

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EXAMINER

PALABRICA, RICARDO J

ART UNIT

PAPER NUMBER

3663

MAIL DATE

DELIVERY MODE

02/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,897	Applicant(s) CHAMBRIN ET AL.	
	Examiner Rick Palabrica	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-12, 14 and 16-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/20/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's 1/10/08 Election without traverse of species of: a) A1 (crimping); b) bottom end piece; c) construction variant as shown in Fig. 4A, with claims 10-12, 14 and 16-18 readable thereon, is acknowledged.

Drawings

2. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 10-12, 14 and 16-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 10 recites the limitation. “an annular member having a fixing portion that has an outer diameter and at least equal to the diameter of the centering hole ...”. Claim 16 recites a similar limitation.

The term, “at least equal to the diameter of the centering hole” includes having a diameter larger than the diameter of the centering hole. There is neither an adequate description nor enabling disclosure as to how and in what manner the fixing portion of the annular member can fit into the centering hole where the outer diameter of said member is larger than said hole.

Claim 10 recites the limitation, “at least two flexible arms that are separated from each other by at least two apertures of axial direction over the entire length of the resilient bush.” Claim 16 recites a similar limitation.

There is neither an adequate description nor enabling disclosure as to how and in what manner the resilient bush can have such apertures along its entire length and still be a single structure. If said apertures have the recited configuration, the bush will fall apart into several pieces.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10-12 14, 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leclercq (U.S. 4,659,538), who teaches a method and apparatus for limiting the hydraulic thrust of cooling water on a nuclear reactor fuel.

As to claims 10 and 16, Leclercq discloses in Fig. 1 a framework having a cluster of fuel rods 11 that are closed at ends by transverse end pieces 8 and 9, the end pieces having at least two axial through holes that each receive a centering pin 7 (see claim 1). Applicant reads claim language, "end piece", to include housing 18 (see Figs. 2 and 3).

The following statement of Leclercq is important for the subsequent discussion in this Office action:

"FIGS. 2 and 3 illustrate housings associated with the upper member of a not shown fuel assembly. However, it is obvious that the lower end members of the corresponding assemblies have identical, but downwardly directed means, which are of the same nature and function in a symmetrical manner. The following description and the claims for reasons of simplicity deal with the case where the said damping devices operate by the penetration of the centering pin and the removal of water, but it is obvious that this is not limitative and that the symmetrical operation by extracting the centering pins and the controlled inflow of water into the associated housings also forms part of the present invention." See col. 3, lines 27+.

Thus, while these figures show the configuration for the upper piece of the fuel assembly, they equally apply to the lower piece of the assembly.

Leclercq further discloses a resilient bush 16 fixed inside a through-hole of an end piece of the fuel assembly (see Figs. 2 and 3). His bush has an annular member that

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has a fixing portion 29 that has an outer diameter equal to the diameter of the through-hole. He also discloses apertures 17 separating two flexible arms of bush 16.

As to the bush having a supporting surface that projects at the free end portion and having an inner diameter smaller than the centering pin, this is a matter of design choice and/or optimization. Having said supporting surface would provide a more resilient property to the bush but it would cost more to manufacture compared to the simple construction in Leclercq that does not include such projection. Optimization would require proper balancing of these competing factors, e.g., cost vs. additional resiliency provided by the projection.

As to claims 11 and 12, welding is a well known method of attaching two metals to each other, and such method of attachment of the bush to the bottom end piece (which includes the housing and its aperture) would have been obvious to one of ordinary skill in the art at the time of the claimed invention.

As to claims 14 and 18, see Figs. 2 and 3.

As to claim 17, the manner by which the diameter of the through holes is determined in a process limitation that makes the claim a product-by-process claim, which does not define over the applied art. As to product-by-process claims, MPEP 2113 states:

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777F.2d 695, 698, 227 USPQ 964, 966.

Still as to claim 17, applicant has not defined the term, "substantially greater", in the limitation, "through-holes of the end piece of the fuel assembly in which a resilient bush is fixed have a diameter that is substantially greater than the diameter of the centering pins." Absent such definition, the examiner reads the term broadly and reads it on the bush/pin configuration of Leclercq that shows the through holes having a greater diameter than pin 7, particularly the conical portion of said pin.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References B-D further illustrate prior art.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 571-272-6880. The examiner can normally be reached on 6:00-4:30, Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Rick Palabrica/
Primary Examiner, Art Unit 3663

February 12, 2008